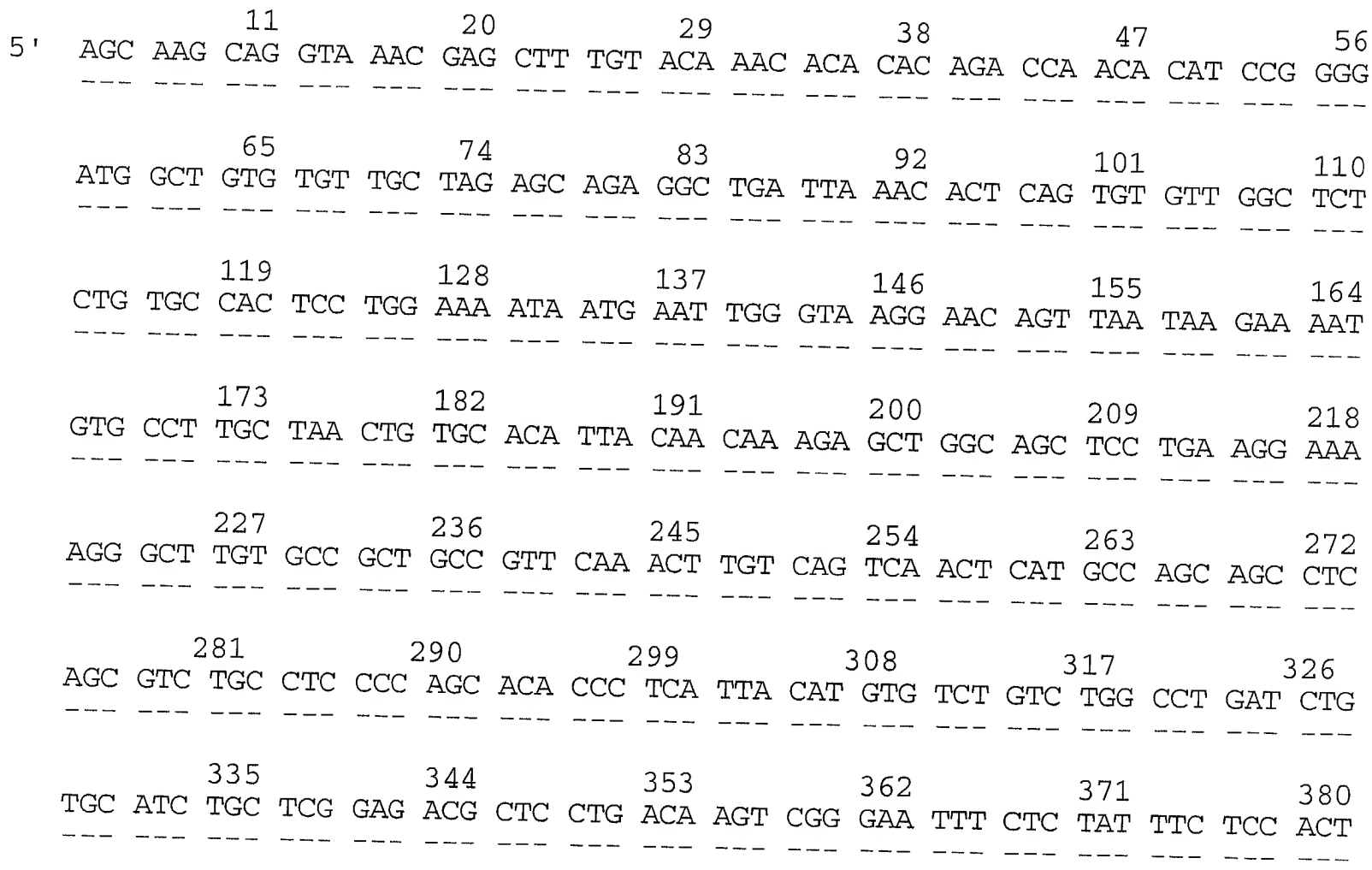
5'
11 20 29 38 47 56
AGC AAG CAG GTA AAC GAG CTT TGT ACA AAC ACA CAC AGA CCA ACA CAT CCG GGG
65 74 83 92 101 110
ATG GCT GTG TGT TGC TAG AGC AGA GGC TGA TTA AAC ACT CAG TGT GTT GGC TCT
119 128 137 146 155 164
CTG TGC CAC TCC TGG AAA ATA ATG AAT TGG GTA AGG AAC AGT TAA TAA GAA AAT
173 182 191 200 209 218
GTG CCT TGC TAA CTG TGC ACA TTA CAA CAA AGA GCT GGC AGC TCC TGA AGG AAA
227 236 245 254 263 272
AGG GCT TGT GCC GCT GCC GTT CAA ACT TGT CAG TCA ACT CAT GCC AGC AGC CTC
281 290 299 308 317 326
AGC GTC TGC CTC CCC AGC ACA CCC TCA TTA CAT GTG TCT GTC TGG CCT GAT CTG
335 344 353 362 371 380
TGC ATC TGC TCG GAG ACG CTC CTG ACA AGT CGG GAA TTT CTC TAT TTC TCC ACT

FIGURE 1A

```
                389                 398                 407                 416                 425                 434
GGT GCA AAG AGC GGA TTT CTC CCT GCT TCT CTT CTG TCA CCC CCG CTC CTC TCC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

                443                 452                 461                 470                 479                 488
CCC AGG AGG CTC CTT GAT TTA TGG TAG CTT TGG ACT TGC TTC CCC GTC TGA CTG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

                497                 506                 515                 524                 533                 542
TCC TTG ACT TCT AGA ATG GAA GAA GCT GAG CTG GTG AAG GGA AGA CTC CAG GCC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
                        M   E   E   A   E   L   V   K   G   R   L   Q   A

                551                 560                 569                 578                 587                 596
ATC ACA GAT AAA AGA AAA ATA CAG GAA GAA ATC TCA CAG AAG CGT CTG AAA ATA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 I   T   D   K   R   K   I   Q   E   E   I   S   Q   K   R   L   K   I

GAG GAA GAC AAA CTA AAG CAC CAG CAT TTG AAG AAA AAG GCC TTG AGG GAG AAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 E   E   D   K   L   K   H   Q   H   L   K   K   K   A   L   R   E   K

                659                 668                 677                 686                 695                 704
TGG CTT CTA GAT GGA ATC AGC AGC GGA AAA GAA CAG GAA GAG ATG AAG AAG CAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 W   L   L   D   G   I   S   S   G   K   E   Q   E   E   M   K   K   Q
```

FIGURE 1B

		713			722			731			740			749			758
AAT	CAA	CAA	GAC	CAG	CAC	CAG	ATC	CAG	GTT	CTA	GAA	CAA	AGT	ATC	CTC	AGG	CTT
N	Q	Q	D	Q	H	Q	I	Q	V	L	E	Q	S	I	L	R	L
		767			776			785			794			803			812
GAG	AAA	GAG	ATC	CAA	GAT	CTT	GAA	AAA	GCT	GAA	CTG	CAA	ATC	TCA	ACG	AAG	GAA
E	K	E	I	Q	D	L	E	K	A	E	L	Q	I	S	T	K	E
		821			830			839			848			857			866
GAG	GCC	ATT	TTA	AAG	AAA	CTA	AAG	TCA	ATT	GAG	CGG	ACA	ACA	GAA	GAC	ATT	ATA
E	A	I	L	K	K	L	K	S	I	E	R	T	T	E	D	I	I
		875			884			893			902			911			920
AGA	TCT	GTG	AAA	GTG	GAA	AGA	GAA	GAA	AGA	GCA	GAA	GAG	TCA	ATT	GAG	GAC	ATC
R	S	V	K	V	E	R	E	E	R	A	E	E	S	I	E	D	I
		929			938			947			956			965			974
TAT	GCT	AAT	ATC	CCT	GAC	CTT	CCA	AAG	TCC	TAC	ATA	CCT	TCT	AGG	TTA	AGG	AAG
Y	A	N	I	P	D	L	P	K	S	Y	I	P	S	R	L	R	K
		983			992			1001			1010			1019			1028
GAG	ATA	AAT	GAA	GAA	AAA	GAA	GAT	GAT	GAA	CAA	AAT	AGG	AAA	GCT	TTA	TAT	GCC
E	I	N	E	E	K	E	D	D	E	Q	N	R	K	A	L	Y	A

FIGURE 1C

```
          1037                1046                1055                1064                1073                1082
ATG GAA ATT AAA GTT GAA AAA GAC TTG AAG ACT GGA GAA AGT ACA GTT CTG TCT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 M   E   I   K   V   E   K   D   L   K   T   G   E   S   T   V   L   S

          1091                1100                1109                1118                1127                1136
TCA ATA CCT CTG CCA TCA GAT GAC TTT AAA GGT ACA GGA ATA AAA GTT TAT GAT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 S   I   P   L   P   S   D   D   F   K   G   T   G   I   K   V   Y   D

          1145                1154                1163                1172                1181                1190
GAT GGG CAA AAG TCA GTG TAT GCA GTA AGT TCT AAT CAC AGT GCA GCA TAC AAT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 D   G   Q   K   S   V   Y   A   V   S   S   N   H   S   A   A   Y   N

          1199                1208                1217                1226                1235                1244
GGC ACC GAT GGC CTG GCA CCA GTT GAA GTA GAG GAA CTT CTA AGA CAA GCC TCA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 G   T   D   G   L   A   P   V   E   V   E   E   L   L   R   Q   A   S

          1253                1262                1271                1280                1289                1298
GAG AGA AAC TCT AAA TCC CCA ACA GAG TAT CAT GAG CCT GTA TAT GCC AAT CCC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 E   R   N   S   K   S   P   T   E   Y   H   E   P   V   Y   A   N   P

          1307                1316                1325                1334                1343                1352
TTT TAC AGG CCT ACA ACC CCA CAG AGA GAA ACG GTG ACC CCT GGA CCA AAC TTT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 F   Y   R   P   T   T   P   Q   R   E   T   V   T   P   G   P   N   F
```

FIGURE 1D

```
          1361       1370       1379       1388       1397       1406
CAA GAA AGG ATA AAG ATT AAA ACT AAT GGA CTG GGT ATT GGT GTA AAT GAA TCC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Q   E   R   I   K   I   K   T   N   G   L   G   I   G   V   N   E   S

          1415       1424       1433       1442       1451       1460
ATA CAC AAT ATG GGC AAT GGT CTT TCA GAG GAA AGG GGA AAC AAC TTC AAT CAC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 I   H   N   M   G   N   G   L   S   E   E   R   G   N   N   F   N   H

          1469       1478       1487       1496       1505       1514
ATC AGT CCC ATT CCG CCA GTG CCT CAT CCC CGA TCA GTG ATT CAA CAA GCA GAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 I   S   P   I   P   P   V   P   H   P   R   S   V   I   Q   Q   A   E

          1523       1532       1541       1550       1559       1568
GAG AAG CTT CAC ACC CCG CAA AAA AGG CTA ATG ACT CCT TGG GAA GAA TCG AAT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 E   K   L   H   T   P   Q   K   R   L   M   T   P   W   E   E   S   N

          1577       1586       1595       1604       1613       1622
GTC ATG CAG GAC AAA GAT GCA CCC TCT CCA AAG CCA AGG CTG AGC CCC AGA GAG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 V   M   Q   D   K   D   A   P   S   P   K   P   R   L   S   P   R   E

          1631       1640       1649       1658       1667       1676
ACA ATA TTT GGG AAA TCT GAA CAC CAG AAT TCT TCA CCC ACT TGT CAG GAG GAC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 T   I   F   G   K   S   E   H   Q   N   S   S   P   T   C   Q   E   D
```

FIGURE 1E

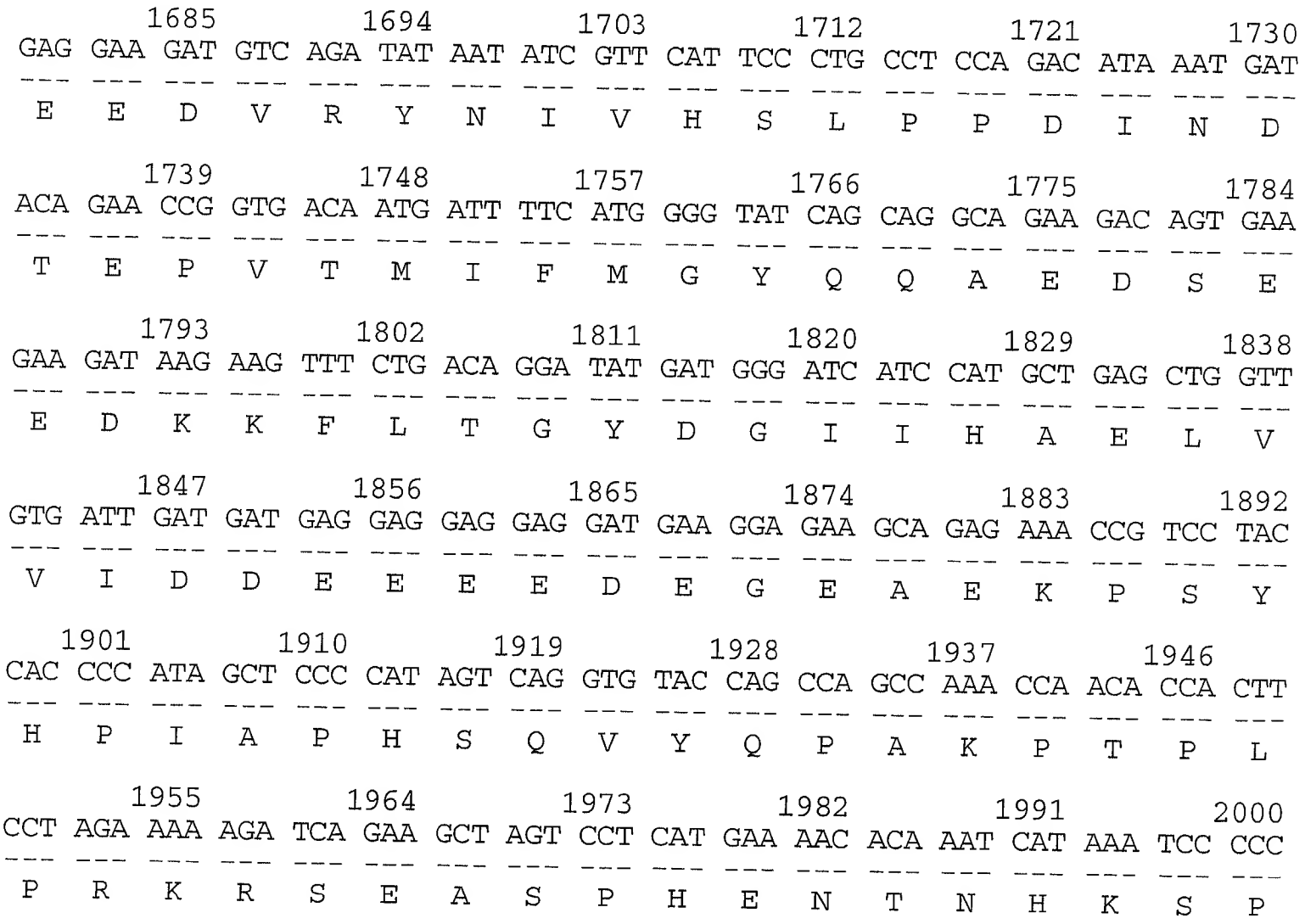
1685 1694 1703 1712 1721 1730
GAG GAA GAT GTC AGA TAT AAT ATC GTT CAT TCC CTG CCT CCA GAC ATA AAT GAT
E E D V R Y N I V H S L P P D I N D
1739 1748 1757 1766 1775 1784
ACA GAA CCG GTG ACA ATG ATT TTC ATG GGG TAT CAG CAG GCA GAA GAC AGT GAA
T E P V T M I F M G Y Q Q A E D S E
1793 1802 1811 1820 1829 1838
GAA GAT AAG AAG TTT CTG ACA GGA TAT GAT GGG ATC ATC CAT GCT GAG CTG GTT
E D K K F L T G Y D G I I H A E L V
1847 1856 1865 1874 1883 1892
GTG ATT GAT GAT GAG GAG GAG GAG GAT GAA GGA GAA GCA GAG AAA CCG TCC TAC
V I D D E E E E D E G E A E K P S Y
1901 1910 1919 1928 1937 1946
CAC CCC ATA GCT CCC CAT AGT CAG GTG TAC CAG CCA GCC AAA CCA ACA CCA CTT
H P I A P H S Q V Y Q P A K P T P L
1955 1964 1973 1982 1991 2000
CCT AGA AAA AGA TCA GAA GCT AGT CCT CAT GAA AAC ACA AAT CAT AAA TCC CCC
P R K R S E A S P H E N T N H K S P

FIGURE 1F

```
          2009         2018         2027         2036         2045         2054
CAC AAA AAT TCC ATA TCT CTG AAA GAG CAA GAA GAA AGC TTA GGC AGC CCT GTC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 H   K   N   S   I   S   L   K   E   Q   E   E   S   L   G   S   P   V

          2063         2072         2081         2090         2099         2108
CAC CAT TCC CCA TTT GAT GCT CAG ACA ACT GGA GAT GGG ACT GAG GAT CCA TCC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 H   H   S   P   F   D   A   Q   T   T   G   D   G   T   E   D   P   S

          2117         2126         2135         2144         2153         2162
TTA ACA GCT TTA AGG ATG AGA ATG GCA AAG CTG GGA AAA AAG GTG ATC TAA GAG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 L   T   A   L   R   M   R   M   A   K   L   G   K   K   V   I   *

          2171         2180         2189         2198         2207         2216
TTG TAC CAC CTA TAT AAA CAT CCT TTG AAG AAG AAA CTA AGA AGC ATT TGC AAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

     2225         2234         2243         2252         2261         2270
TTT CTC TTC TGG ATA TTT TGT TTA TTT TTT CTG AAG TCC AAA AAA TTA TCA TTA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

          2279         2288         2297         2306         2315         2324
CAG TGT ACC ATA TTA AGC CAT GTG AAT AAG TAG TAG TCA TTA TTT GTG AAA AAT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
```

FIGURE 1G

```
        2333        2342        2351        2360        2369        2378
TCC CAA AAA GCT GGG GAA AAC AAA TGT GTA ACT TTT CCA GTT ACT TGA CAC GAT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

        2387        2396        2405        2414        2423        2432
TCA GTG GGG GAA AAC CAG CAT TTT TTA TTC TAT TGA TAC CAA AGC ATT TCT AAT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

        2441        2450        2459        2468        2477
AAG AGC TTG TTA AAT TTA AGA ATA AAG TTA TTT AAA ATA AAA AAA AAA A 3'
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- -
```

FIGURE 1H

```
                11                  20                  29                  38                  47                  56
5'  GTA TCC CTT GTT TAA TCA CTT TTG TGG TTA AAA GAG ACC TTT GGG TCA GTC TGC
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

                65                  74                  83                  92                  101                 110
    CTC ATT CCT TGA AGA GTT TAG CCC TGG CTC ACT TTT CAC TCT ATT TCT TCT CCT
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

                119                 128                 137                 146                 155                 164
    GTC TCA AGA AAG AAG AAA AAA AGA GAC AAA TTA CCC AGA AAC CCC TCC CTT CCC
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

                173                 182                 191                 200                 209                 218
    CAC ATG GAG GCC TTG GCA AAT GTT AAT TTT CCT AGA AAA TCC TTC AGA CCT GAA
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
        M   E   A   L   A   N   V   N   F   P   R   K   S   F   R   P   E

                227                 236                 245                 254                 263                 272
    GAC GCA GGA AAA GAA TCT GGC TCT CAG GGT GGC TTC TGC GTC CCC GCC GCC AGG
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
    D   A   G   K   E   S   G   S   Q   G   G   F   C   V   P   A   A   R

                281                 290                 299                 308                 317                 326
    CCC CAG ACT ATG GTC ACA GGG CCG TCC TGT TCC TCC CCG GGA CTC CAG AAT TTC
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
    P   Q   T   M   V   T   G   P   S   C   S   S   P   G   L   Q   N   F
```

FIGURE 2A

```
                335                 344                 353                 362                 371                 380
TCT CCT CAA AGG AAA GAA AAC AGG GCA TGC GCT TGT TGG CAA AAC GCA GGG CCG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 S   P   Q   R   K   E   N   R   A   C   A   C   W   Q   N   A   G   P

                389                 398                 407                 416                 425                 434
GCT CCC AAA AAC CCC ATG TGT GTA CGA TTA AAA GTT GGC CGT CCC CAG GCC TCC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 A   P   K   N   P   M   C   V   R   L   K   V   G   R   P   Q   A   S

                443                 452                 461                 470                 479                 488
CAG CGC AAA CTT AAA GAG ACA GGG CTT TGC TGA AAA CCA AAC ATG GGC CAG CTG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Q   R   K   L   K   E   T   G   L   C   *

                497                 506                 515                 524                 533                 542
GGC TTT TTA ACA ACC TAG AGA CTT TCC GGA GCT GCC TGG AAC AGA GCC TGC GGG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

                551                 560                 569                 578                 587                 596
AAA CGG GGC TTG CCA GAG ACA CTC ACA GTT TCC TTC ATG GCC TGT TTT GGT CCC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

                605                 614                 623                 632                 641                 650
CTA AGA ATC TCC ACA TCA TTG TCT TTC TTG TGC CTT TTC CTT GGT GAG CAA CAG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

                659                 668                 677                 686                 695                 704
AAA GGG AAG GGT TCC AAG CCT CTA AAA ATG TGC TTT GTG ATC AGG AGT GCG CTC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
```

FIGURE 2B

```
 713          722          731          740          749          758
CAA ACC AAA TAC GCG CGC TGC CCT TTC GAG GCC AGT GAG CTC AGC CTC CAA GGC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

         767          776          785          794          803          812
TTT AAA GCC ACA TTT CAG CAA GAG AAA GCG CTG AGA GCT CGC AGG TTC ATT AAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

         821          830          839          848          857          866
GAA GGC AAA GCA CTG GTT TCT CTC CTT AGA AAA GTA GGT TTC TTG GCT TGA TGT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

         875          884          893          902          911          920
AGA CTG GCT TGC TTT GAT TTT TAG TGA AGG GAA TGT ACG TAA AAC AAA ATA GGG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

         929          938          947          956          965          974
CTT GGC TGG TCA AAG GAG ACA AGC AGG ATG GAT GGA TGG ATG GAT GGA TGG ATG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

         983          992         1001         1010         1019         1028
TAT GGA TGA ATA GAT AGA TGG TGT TTG CAT GTA AAT TGC AGA GAA AAC AAA ACC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

     1037         1046         1055         1064         1073         1082
AAA GCT GAT TGG AAA CAA TTA ATT GTG GGT GTC TGA GGG GGA AGG TCG CAG CTT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
```

FIGURE 2C

```
        1091          1100          1109          1118          1127          1136
TGG GCA GCT TTG AGA AGC GGT ACA AGA GTT CTG TGC CTG TGT GTC CAG CCC TGG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

        1145          1154          1163          1172          1181          1190
AGC CAG CCA GTG CAT TTA TTT TAA GCT CTT AGA AGC AAC TCC TTG GCC CAG GAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

        1199          1208          1217          1226          1235          1244
TGC GTG ACC CCT GAG ATG GGT CCA CGC ATC TCT CTA CAC TTC CTT CTC TCC GTG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

        1253          1262          1271          1280          1289          1298
GGA TAC TGG ACT CGT GCC TCT GCG CCC ATT CTC TTC TCA CGC ATA TCC ATG AGC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

        1307          1316          1325          1334          1343          1352
TTT AAT TTC ACT TTC TGA TCA CGG TAC GTC CAT AAA GCC AGT ATT ACA CTT AAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

        1361          1370          1379          1388          1397          1406
TGA AGT ATT CTT TTT TGT AAT CGT TTT TTT TAG AAG GTA AAC AAA TTT AAT AAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

        1415          1424          1433
GCT ACC AAT AAT GAG AAA AAA AAA AAA AAA AAA 3'
--- --- --- --- --- --- --- --- --- --- ---
```

FIGURE 2D

```
                9                  18                  27                  36                  45                  54
5'  CAA CCA GGG TCA GGC TGT GCT CAC AGT TTC CTC TGG CGG CAT GTA AAG GCT CCA
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

               63                  72                  81                  90                  99                 108
    CAA AGG AGT TGG GAG TTC AAA TGA GGC TGC TGC GGA CGG CCT GAG GAT GGA CCC
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

              117                 126                 135                 144                 153                 162
    CAA GCC CTG GAC CTG CCG AGC GTG GCA CTG AGG CAG CGG CTG ACG CTA CTG TGA
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

              171                 180                 189                 198                 207                 216
    GGG AAA GAA GGT TGT GAG CAG CCC CGC AGG ACC CCT GGC CAG CCC TGG CCC CAG
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

              225                 234                 243                 252                 261                 270
    CCT CTG CCG GAG CCC TCT GTG GAG GCA GAG CCA GTG GAG CCC AGT GAG GCA GGG
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

              279                 288                 297                 306                 315                 324
    CTG CTT GGC AGC CAC CGG CCT GCA ACT CAG GAA CCC CTC CAG AGG CCA TGG ACA
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

              333                 342                 351                 360                 369                 378
    GGC TGC CCC GCT GAC GGC CAG GGT GAA GCA TGT GAG GAG CCG CCC CGG AGC CAA
    --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
```

FIGURE 3A

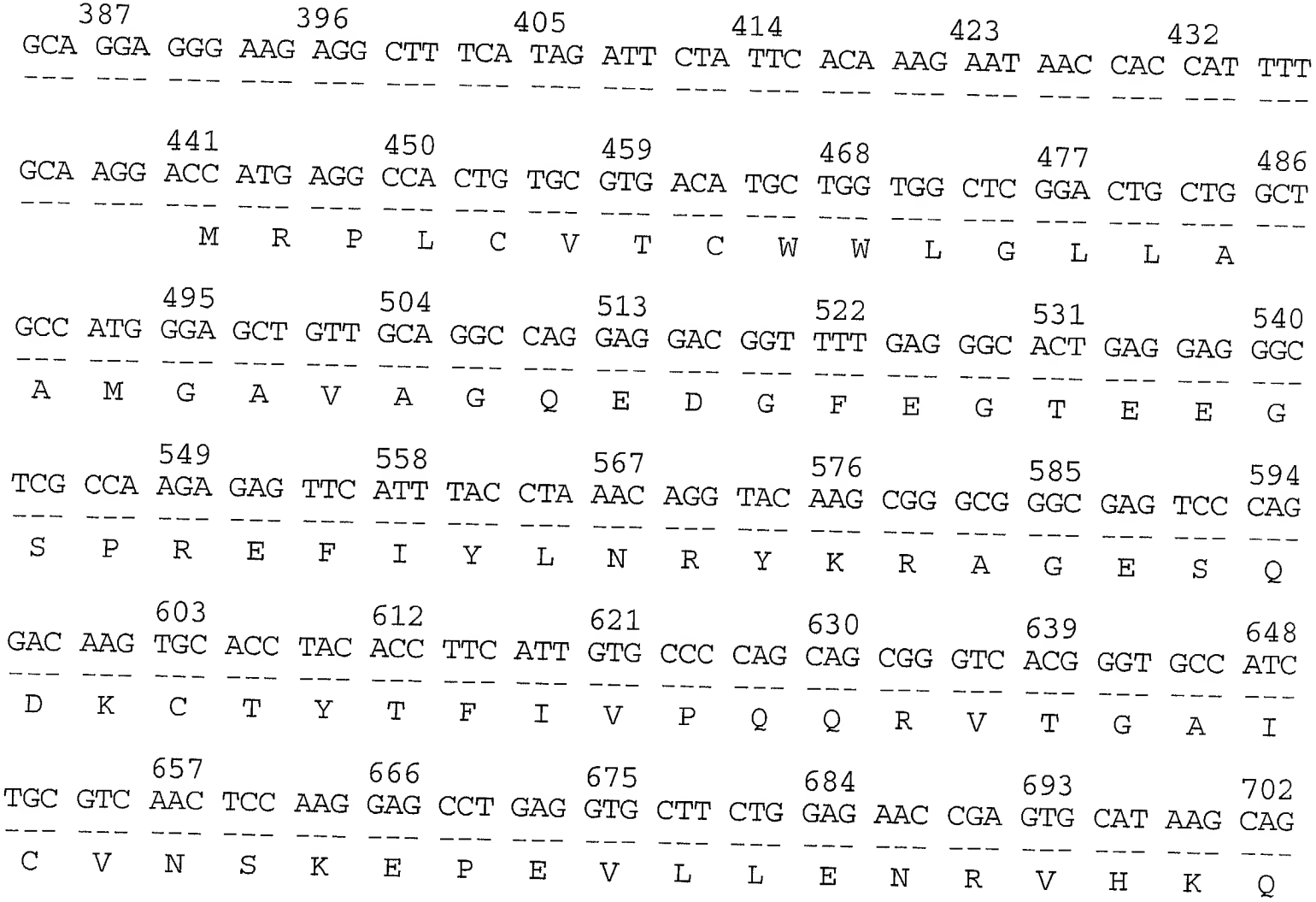
387 396 405 414 423 432
GCA GGA GGG AAG AGG CTT TCA TAG ATT CTA TTC ACA AAG AAT AAC CAC CAT TTT
441 450 459 468 477 486
GCA AGG ACC ATG AGG CCA CTG TGC GTG ACA TGC TGG TGG CTC GGA CTG CTG GCT
M R P L C V T C W W L G L L A
495 504 513 522 531 540
GCC ATG GGA GCT GTT GCA GGC CAG GAG GAC GGT TTT GAG GGC ACT GAG GAG GGC
A M G A V A G Q E D G F E G T E E G
549 558 567 576 585 594
TCG CCA AGA GAG TTC ATT TAC CTA AAC AGG TAC AAG CGG GCG GGC GAG TCC CAG
S P R E F I Y L N R Y K R A G E S Q
603 612 621 630 639 648
GAC AAG TGC ACC TAC ACC TTC ATT GTG CCC CAG CAG CGG GTC ACG GGT GCC ATC
D K C T Y T F I V P Q Q R V T G A I
657 666 675 684 693 702
TGC GTC AAC TCC AAG GAG CCT GAG GTG CTT CTG GAG AAC CGA GTG CAT AAG CAG
C V N S K E P E V L L E N R V H K Q

FIGURE 3B

```
      711                 720                 729                 738                 747                 756
GAG CTA GAG CTG CTC AAC AAT GAG CTG CTC AAG CAG AAG CGG CAG ATC GAG ACG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 E   L   E   L   L   N   N   E   L   L   K   Q   K   R   Q   I   E   T

          765                 774                 783                 792                 801                 810
CTG CAG CAG CTG GTG GAG GTG GAC GGC GGC ATT GTG AGC GAG GTG AAG CTG CTG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 L   Q   Q   L   V   E   V   D   G   G   I   V   S   E   V   K   L   L

          819                 828                 837                 846                 855                 864
CGC AAG GAG AGC CGC AAC ATG AAC TCG CGG GTC ACG CAG CTC TAC ATG CAG CTC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 R   K   E   S   R   N   M   N   S   R   V   T   Q   L   Y   M   Q   L

          873                 882                 891                 900                 909                 918
CTG CAC GAG ATC ATC CGC AAG CGG GAC AAC GCG TTG GAG CTC TCC CAG CTG GAG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 L   H   E   I   I   R   K   R   D   N   A   L   E   L   S   Q   L   E

          927                 936                 945                 954                 963                 972
AAC AGG ATC CTG AAC CAG ACA GCC GAC ATG CTG CAG CTG GCC AGC AAG TAC AAG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 N   R   I   L   N   Q   T   A   D   M   L   Q   L   A   S   K   Y   K

          981                 990                 999                1008                1017                1026
GAC CTG GAG CAC AAG TAC CAG CAC CTG GCC ACA CTG GCC CAC AAC CAA TCA GAG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 D   L   E   H   K   Y   Q   H   L   A   T   L   A   H   N   Q   S   E
```

FIGURE 3C

```
 1035         1044         1053         1062         1071         1080
ATC ATC GCG CAG CTT GAG GAG CAC TGC CAG AGG GTG CCC TCG GCC AGG CCC GTC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 I   I   A   Q   L   E   E   H   C   Q   R   V   P   S   A   R   P   V

        1089         1098         1107         1116         1125         1134
CCC CAG CCA CCC CCC GCT GCC CCG CCC CGG GTC TAC CAA CCA CCC ACC TAC AAC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 P   Q   P   P   P   A   A   P   P   R   V   Y   Q   P   P   T   Y   N

        1143         1152         1161         1170         1179         1188
CGC ATC ATC AAC CAG ATC TCT ACC AAC GAG ATC CAG AGT GAC CAG AAC CTG AAG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 R   I   I   N   Q   I   S   T   N   E   I   Q   S   D   Q   N   L   K

        1197         1206         1215         1224         1233         1242
GTG CTG CCA CCC CCT CTG CCC ACT ATG CCC ACT CTC ACC AGC CTC CCA TCT TCC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 V   L   P   P   P   L   P   T   M   P   T   L   T   S   L   P   S   S

        1251         1260         1269         1278         1287         1296
ACC GAC AAG CCG TCG GGC CCA TGG AGA GAC TGC CTG CAG GCC CTG GAG GAT GGC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 T   D   K   P   S   G   P   W   R   D   C   L   Q   A   L   E   D   G

        1305         1314         1323         1332         1341         1350
CAC GAC ACC AGC TCC ATC TAC CTG GTG AAG CCG GAG AAC ACC AAC CGC CTC ATG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 H   D   T   S   S   I   Y   L   V   K   P   E   N   T   N   R   L   M
```

FIGURE 3D

```
      1359        1368        1377        1386        1395        1404
CAG GTG TGG TGC GAC CAG AGA CAC GAC CCC GGG GGC TGG ACC GTC ATC CAG AGA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 Q   V   W   C   D   Q   R   H   D   P   G   G   W   T   V   I   Q   R

      1413        1422        1431        1440        1449        1458
CGC CTG GAT GGC TCT GTT AAC TTC TTC AGG AAC TGG GAG ACG TAC AAG CAA GGG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 R   L   D   G   S   V   N   F   F   R   N   W   E   T   Y   K   Q   G

      1467        1476        1485        1494        1503        1512
TTT GGG AAC ATT GAT GGC GAA TAC TGG CTG GGC CTG GAG AAC ATT TAC TGG CTG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 F   G   N   I   D   G   E   Y   W   L   G   L   E   N   I   Y   W   L

      1521        1530        1539        1548        1557        1566
ACG AAC CAA GGC AAC TAC AAA CTC CTG GTG ACC ATG GAG GAC TGG TCC GGC CGC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 T   N   Q   G   N   Y   K   L   L   V   T   M   E   D   W   S   G   R

      1575        1584        1593        1602        1611        1620
AAA GTC TTT GCA GAA TAC GCC AGT TTC CGC CTG GAA CCT GAG AGC GAG TAT TAT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 K   V   F   A   E   Y   A   S   F   R   L   E   P   E   S   E   Y   Y

      1629        1638        1647        1656        1665        1674
AAG CTG CGG CTG GGG CGC TAC CAT GGC AAT GCG GGT GAC TCC TTT ACA TGG CAC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 K   L   R   L   G   R   Y   H   G   N   A   G   D   S   F   T   W   H
```

FIGURE 3E

```
      1683          1692          1701          1710          1719          1728
AAC GGC AAG CAG TTC ACC ACC CTG GAC AGA GAT CAT GAT GTC TAC ACA GGA AAC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 N   G   K   Q   F   T   T   L   D   R   D   H   D   V   Y   T   G   N

      1737          1746          1755          1764          1773          1782
TGT GCC CAC TAC CAG AAG GGA GGC TGG TGG TAT AAC GCC TGT GCC CAC TCC AAC
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 C   A   H   Y   Q   K   G   G   W   W   Y   N   A   C   A   H   S   N

      1791          1800          1809          1818          1827          1836
CTC AAC GGG GTC TGG TAC CGC GGG GGC CAT TAC CGG AGC CGC TAC CAG GAC GGA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 L   N   G   V   W   Y   R   G   G   H   Y   R   S   R   Y   Q   D   G

      1845          1854          1863          1872          1881          1890
GTC TAC TGG GCT GAG TTC CGA GGA GGC TCT TAC TCA CTC AAG AAA GTG GTG ATG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 V   Y   W   A   E   F   R   G   G   S   Y   S   L   K   K   V   V   M

      1899          1908          1917          1926          1935          1944
ATG ATC CGA CCG AAC CCC AAC ACC TTC CAC TAA GCC AGC TCC CCC TCC TGA CCT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
 M   I   R   P   N   P   N   T   F   H   *

      1953          1962          1971          1980          1989          1998
CTC GTG GCC ATT GCC AGG AGC CCA CCC TGG TCA CGC TGG CCA CAG CAC AAA GAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
```

FIGURE 3F

```
      2007         2016         2025         2034         2043         2052
CAA CTC CTC ACC AGT TCA TCC TGA GGC TGG GAG GAC CGG GAT GCT GGA TTC TGT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

      2061         2070         2079         2088         2097         2106
TTT CCG AAG TCA CTG CAG CGG ATG ATG GAA CTG AAT CGA TAC GGT GTT TTC TGT
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

      2115         2124         2133         2142         2151         2160
CCC TCC TAC TTT CCT TCA CAC CAG ACA GCC CCT CAT GTC TCC AGG ACA GGA CAG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

      2169         2178         2187         2196         2205         2214
GAC TAC AGA CAA CTC TTT CTT TAA ATA AAT TAA GTC TCT ACA ATA AAA ACA CAA
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

      2223         2232         2241         2250         2259         2268
CTG CAA AGT ACC TTC ATA ATA TAC ATG TGT ATG AGC CTC CCT TGT GCA CGT ATG
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---

      2277         2286
TGT ATA GCA CAT ATA TAT GG 3'
--- --- --- --- --- --- --
```

FIGURE 3G

NORTHERN ANALYSIS OF SEQ ID NO:3

Category	cDNAs	Libraries	Abund	%Abund
Cardiovascular	270162	15/72	19	0.0070
Connective	147886	15/54	26	0.0176
Digestive	514430	33/151	54	0.0105
Embryonic	107325	2/23	2	0.0019
Endocrine	233587	7/63	8	0.0034
Exocrine	255105	17/64	28	0.0110
Female Reprod	445078	25/113	48	0.0108
Male Reprod	453150	32/118	44	0.0097
Germ Cells	46185	1/5	9	0.0195
Hemic/Immune	701709	8/166	8	0.0011
Liver	110945	2/34	2	0.0018
Musculoskeletal	162794	10/50	16	0.0098
Nervous	973795	25/221	45	0.0046
Pancreas	111757	3/25	19	0.0170
Respiratory	407942	14/95	21	0.0051
Sense Organs	25346	1/10	1	0.0039
Skin	72110	1/15	1	0.0014
Stomatognathic	14025	0/11	0	0.0000
Unclass./Mixed	150146	6/19	31	0.0206
Urinary Tract	287931	12/66	22	0.0076
Totals	5491408	229/1375	404	0.0001

Legend: The first column presents the category (cell tissue or organ), the second column, the number of cDNAs sequenced for that category; the third column, description of the tissue; the fourth column, absolute abundance of the transcript; and the fifth column, percent abundance of the trancript (abundance divided by the number of clones)

FIGURE 4

Differential Expression of SEQ ID NO:3 in Pancreas

Found in:

Library	cDNAs	Description	Abund	%Abund
PANCTUP01	1205	pancreatic tumor, TIGR	1	0.0830
PANCTUP032	2651	pancreas tumor, adenoCA, 3' CGAP	17	0.0751
PANCTUT021	1545	pancreatic tumor, anaplastic CA, 45F	1	0.0087

Not found in:

Library	cDNAs	Description
PANCDIR02	2023	pancreas, type I diabetes, 43F, RP
PANCDIT01	1741	pancreas, type I diabetes, 15M
PANCNOT23	3919	pancreas, type I diabetes, 43F
PANCDIT03	688	pancreas, type II diabetes, 57M
PANCNOE02	2834	pancreas, 8M, 5RP
PANCNOP03	589	pancreas, 34F, WN
PANCNOP05	373	pancreas, CGAP
PANCNOT01	4452	pancreas, 29M
PANCNOT04	11135	pancreas, 5M
PANCNOT05	6788	pancreas, 2M
PANCNOT07	6991	pancreas, fetal, 23wM
PANCNOT08	3901	pancreas, pancreatitis, mw/adenoCA, 65F, m/PANCTUT01
PANCNOT15	3638	pancreas, islet cell hyperplasia, 15M
PANCNOT16	2994	pancreas, aw/Patau's, fetal, 20wM
PANCNOT17	4034	pancreas, mw/neuroendocrine CA, aw/node, liver mets, 65F
PANCNOT19	3772	pancreas, 8M
PANCNOT21	3841	pancreas, 8M
PANCNOT22	1356	pancreas, 17F

Legend: The first range shows the expression of SEQ ID NO:3 in pancreas. SEQ ID NO:3 is differentially expressed in pancreatic tumors and diagnostic of that condition. The second range shows that the sequence is not expressed in type I and II diabetes, in pancreatitis, or in metastatic liver cancer.

Where present, the first column presents the library name, the second column, the number of cDNAs sequenced for that library; the third column, description of the tissue; the fourth column, absolute abundance of the transcript; and the fifth column, percent abundance of the trancript (abundance divided by the number of clones)

Note: Normalized and subtracted tissues, which have high abundance transcripts removed before sequencing, were not considered in this analysis.

FIGURE 5